

WHAT IS CLAIMED IS:

1 1. A switch for a telecommunications network, said switch comprising:
2 a call processing application, said call processing application handling
3 interactions with originating and terminating agents in accordance with an
4 interaction framework;

5 a switch reprovisioning system coupled to said call processing
6 application, said switch reprovisioning system reprovisioning said call
7 processing application for said interactions with said originating and
8 terminating agents;

9 a user interface coupled to said switch reprovisioning system, said user
10 interface configured for receiving voice commands, issued by a switch
11 administrator, for transmission to said switch reprovisioning system and
12 generating audibilized responses, issued by said switch reprovisioning system,
13 for transmission to said switch administrator.

1 2. The switch of claim 1 wherein said switch further comprises:

2 an interaction application coupled to said switch reprovisioning system
3 and said call processing application, said interaction application constructing
4 said interaction framework for said call processing application; and

5 at least one provisioning table which contains a plurality of provisioning
6 instructions suitable for use by said call processing application;

7 said interaction application receiving at least one voice command from
8 said user interface and reprovisioning said switch by modifying, using selected
9 ones of said plurality of instructions maintained in said provisioning table, said
10 interaction framework for said call processing application.

11 3. The switch of claim 2 wherein said switch reprovisioning system
12 A further comprises:
13 a voice recognition application coupled between said user interface and
14 said interaction application; and
15 a recognizable audible input table coupled to said voice recognition
16 application, said recognizable audible input table maintaining a plurality of
17 recognizable provisioning instructions suitable for use, by said interaction
18 module, to modify said interaction framework used by said call processing
19 application;
20 said voice recognition application configured for detecting audible
21 sounds, determining if said detected audible sounds corresponds to any of said
22 recognizable instructions maintained in said recognizable audible input table
23 and issuing, to said interaction application, said recognizable provisioning
24 instructions corresponding to said detected audible sounds;
25 said interaction application reprovisioning said switch by modifying said
26 interaction framework using said issued provisioning instructions.

1 A 4. The switch of claim 3 wherein said provisioning instructions
2 maintained in said recognizable audible input table includes resource
3 provisioning information for use in modifying interactions between said switch
4 and originating agents.

1 5. The switch of claim 3 wherein said provisioning instructions
2 maintained in said recognizable audible input table includes interaction
3 A provisioning information for use in modifying interactions between said switch
4 and originating agents for collecting information related to call set-up and call
5 routing.

1 6. The switch of claim 3 wherein said provisioning instructions
2 B maintained in said recognizable audible input table includes subscriber
3 provisioning information for use in modifying interactions between said switch
4 and originating agents for collecting information related to subscriber
5 authorization.

1 A 7. The switch of claim 3 wherein said provisioning instructions
2 maintained in said recognizable audible input table includes translations
3 provisioning information for use in modifying interactions between said switch
4 and said terminating agents.

1 8. The switch of claim 3 wherein said reprovisioning system further
2 comprises:

3 A a voice generation application coupled between said user interface and
4 said voice recognition application; and

5 an output audibilization table coupled to said voice generation
6 application, said output audibilization table maintaining a plurality of
7 audibilizations for use, by said voice generation application, to generate
8 audible messages for transmission to said user interface in response to receipt
9 of replies issued by said interaction module in response to said provisioning
10 instructions issued by said voice recognition application.

1 9. The switch of claim 8 herein said user interface further comprises:

2 B an audio input device for detecting audible sounds;

3 an A/D converter having an input coupled to said audio input device and
4 an output coupled to said voice recognition application, said A/D converter
5 converting audible sounds received from said audio input device into digitized
6 signals for transmission to said voice recognition application;

7 an audio output device for generating audible sounds; and

8 a D/A converter having an input coupled to said voice generation
9 application and an output coupled to said audio output device, said D/A
10 converter converting digitized signals received from said voice generation
11 application into audible sounds for transmission to said audio output device.

1 10. A switch for a telecommunications network, said switch comprising:
2 at least one hardware-based component;
3 at least one software-based component;
4 a switch monitoring system coupled to each of said at least one
5 hardware-based component of said switch and to each one of said at least one
6 software-based component of said switch;
7 said switch monitoring system receiving operational information from
8 said at least one hardware-based component and said at least one software-
9 based component and issuing, based upon said received operational
10 information, a selected one of a plurality of instructions, at least one of said
11 plurality of instructions being an instruction to issue a specified audible
12 notification;
13 a voice generation application coupled to said switch monitoring system,
14 said voice generation application receiving said selected instruction from said
15 switch monitoring system if said selected instruction is an instruction to issue
16 an audible notification, generating a digitized message corresponding to said
17 audible notification; and
18 a user interface coupled to said voice generation application, said user
19 interface configured for receiving said digitized message issued by said voice
20 generation application and converting said received digitized message into
21 audible sound.

1 11. The switch of claim 10 wherein said switch monitoring system
2 further comprises:
3 an expert system application coupled to each one of said at least one
4 hardware-based switch component and said at least one software-based switch
5 component; and
6 a rules table coupled to said expert system application, said rules table
7 containing information governing operation of said switch;
8 said expert system application receiving operational information from
9 said at least one hardware-based component and said at least one software-
10 based component, issuing, based upon said received operational information
11 and said information contained in said rules table, said selected one of said
12 plurality of instructions.

1 12. The switch of claim 10 wherein said switch monitoring system
2 further comprises:
3 an expert system application coupled to each one of said at least one
4 hardware-based switch component and said at least one software-based switch
5 component; and
6 a rules table coupled to said expert system application, said rules table
7 containing information governing operation of said switch, said rules table
8 contains a plurality of operating conditions, at least one instruction associated
9 with each operating condition and a numerical value assigned thereto;
10 said expert system application receiving operational information from
11 said at least one hardware-based component and said at least one software-
12 based component, employing fuzzy logic to rank said at least one instruction
13 contained in said rules table, and initiating a highest ranked one of said at
14 least one instruction.

1 13. The switch of claim 10 wherein said switch monitoring system
2 further comprises:
3 an expert system application coupled to each one of said at least one
4 hardware-based switch component and said at least one software-based switch
5 component; and
6 a rules table coupled to said expert system application, said rules table
7 containing a set of rules governing operation of said switch, each one of said
8 set of rules comprised of a first portion containing an operating condition for
9 said switch and a second portion containing an instruction to be taken if said
10 operating condition contained in said first portion is met.
11 said expert system application receiving operational information from
12 said at least one hardware-based component and said at least one software-
13 based component, and issuing, based upon said received operational
14 information and said information contained in said rules table, said selected
15 one of said plurality of instructions.

1 14. The switch of claim 13 wherein said switch monitoring system
2 further comprises:
3 an output audibilization table coupled to said voice generation
4 application, said output audibilization table maintaining a plurality of digitized
5 messages, each corresponding to one of said instructions to issue an audible
6 notification, for use, by said expert system, to generate audible messages for
7 transmission to said user interface.

1 15. The switch of claim 14 wherein said user interface further
2 comprises:
3 an audio output device for receive analog signals and generating audible
4 sounds therefrom; and
5 a D/A converter having an input coupled to said voice generation
6 application and an output coupled to said audio output device, said D/A
7 converter converting digitized signals received from said voice generation
8 application into analog signals for transmission to said audio output device.

1 16. The switch of claim 13 and further comprising:
2 a call processing application, said call processing application handling
3 interactions with originating and terminating agents in accordance with an
4 interaction framework;
5 an interaction application coupled to said call processing application,
6 said interaction application constructing said interaction framework for said
7 call processing application; and
8 at least one provisioning table coupled to said call processing
9 application, each of said at least one provisioning table containing a plurality
10 of instructions suitable for use by said call processing application;
11 said interaction application modifying, using selected ones of said
12 plurality of instructions maintained in said provisioning table, said interaction
13 framework for said call processing application.

1 17. The switch of claim 16 and further wherein the switch monitoring
2 system further is a combination switch provisioning/monitoring system, said
3 combination switch provisioning/monitoring system further comprising:

4 a provisioning system coupled to said call processing application,
5 said provisioning system provisioning said call processing application for said
6 interactions with said originating and terminating agents;

7 said human interface configured for receiving voice commands, issued
8 by a switch administrator, for transmission to said provisioning system and
9 transmitting responses, issued by said provisioning system, for transmission to
10 said switch administrator;

11 a voice recognition application coupled between said human interface
12 and said interaction application; and

13 a recognizable audible input table coupled to said voice recognition
14 application, said recognizable audible input table maintaining a plurality of
15 recognizable instructions suitable for use, by said interaction module, to
16 modify said interaction framework used by said call processing application;

17 said voice recognition application configuring for detecting audible
18 sounds, determining if said detected audible sounds corresponds to any of said
19 recognizable instructions maintained in said recognizable audible input table
20 and issuing, to said interaction application, said recognizable instructions
21 corresponding to said detected audible sounds;

22 said interaction application modifying said interaction framework using
23 said issued instructions.

1 18. The switch of claim 17 wherein said provisioning system further
2 comprises:

3 a voice generation application coupled between said human interface
4 and said interaction application; and

5 an output audibilization table coupled to said voice generation
6 application, said output audibilization table maintaining a plurality of
7 audibilizations for use, by said interaction application, to generate audible
8 messages for transmission to said human interface.

1 19. The switch of claim 18 wherein said voice generation application is
2 also coupled to said voice recognition module, said output audibilization table
3 further maintaining a plurality of audibilizations for use , by said voice
4 recognition application, to generate audible messages to said human interface.

1 20. The switch of claim 19 wherein said human interface further
2 comprises:

3 an audio input device for detecting audible sounds;

4 an A/D converter having an input coupled to said audio input device and
5 an output coupled to said voice recognition module, said A/D converter
6 converting audible sounds received from said audio input device into digitized
7 signals for transmission to said voice recognition module;

8 an audio output device for generating audible sounds; and

9 a D/A converter having an input coupled to said voice generation module
10 and an output coupled to said audio output device, said D/A converter
11 converting digitized signals received from said voice generation module into
12 audible sounds for transmission to said audio output device.

1 21. A method for reprovisioning a switch, comprising the steps of
2 detecting an audible sound;

3 determining if said audible sound is an audibilized command containing
4 a reprovisioning instruction; and

5 if said audible sound is an audibilized command containing a
6 reprovisioning instruction, reprovisioning said switch in accordance with said
7 reprovisioning instruction.

1 22. The method of claim 21 wherein the step of determining if said
2 audible sound is an audibilized command containing a reprovisioning
3 instruction further comprises the steps of:
4 digitizing said audible sound;
5 comparing said digitized audible sound with a plurality of recognizable
6 commands;
7 if said digitized audible sound matches one of said recognizable
8 commands, executing a reprovisioning instruction contained in said digitized
9 audible sound.

1 A 23. The method of claim 22 wherein the steps of detecting an audible
2 sound and determining if said audible sound is an audibilized command
3 containing a reprovisioning instruction further comprises the steps of:
4 detecting a first audible sound;
5 upon detecting said first audible sound, issuing a request for an
6 authorization code;
7 detecting a second audible sound;
8 determining if said second audible sound is said requested authorization
9 code;
10 if said second audible sound is said requested authorization code,
11 detecting a third audible sound; and
12 determining if said third audible sound is an audibilized command
13 containing a reprovisioning instruction.